

U.S. Application No.: 10/588,597  
Final Office Action Mailed: March 19, 2009  
Advisory Action Mailed: May 22, 2009  
Amendment and Response filed June 19, 2009

### AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### Listing of Claims:

1. (Currently amended) A nucleic acid detection method comprising:  
fixing a cell-containing sample directly on divided compartments of a support;  
pre-treating the sample to expose the nucleic acids to the sample surface~~enable~~  
~~amplification of nucleic acids contained in the sample;~~  
performing PCR amplification of exposed nucleic acids contained in the sample by  
placing a PCR mixture, containing primers for amplifying ~~a target~~ an exposed target nucleic acid,  
into the compartments of the support; and  
determining whether the amplified nucleic acids ~~in a PCR~~ in the PCR solution contain the  
exposed target nucleic acid; and wherein the pre-treatment of the sample precedes amplification  
of the target nucleic acid.
2. (Canceled)
3. (Previously presented) The nucleic acid detection method as set forth in claim 1,  
wherein the pre-treating step is performed by one or more methods selected from the group  
consisting of a detergent treatment method, an enzyme treatment method, and a heat treatment  
method.
4. (Canceled)
5. (Previously Presented) The nucleic acid detection method as set forth in claim 1,  
wherein the amplified nucleic acids are labeled in the step of performing PCR.
6. (Previously Presented) The nucleic acid detection method as set forth in claim 5,  
wherein, in the determining step, the nucleic acids amplified and labeled in the step of  
performing PCR are used as probes for complementary hybridization with known gene  
fragments.
7. (Previously Presented) The nucleic acid detection method as set forth in claim 6,  
wherein the known gene fragments are fixed on the support in advance.

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8. (Previously Presented) The nucleic acid detection method as set forth in claim 5, wherein, in the determining step, the nucleic acids amplified and labeled in the step of performing PCR are used as probes for a DNA microarray.

9. (Previously Presented) The nucleic acid detection method as set forth in claim 1, wherein the sample originates in biological sources.

10. (Previously Presented) The nucleic acid detection method as set forth in claim 9, wherein the biological sample originates in humans.

11-18. (Canceled)

19. (Previously Presented) The nucleic acid detection method as set forth in claim 1, wherein the support with the divided compartments is shaped to fit a gene amplifier for PCR.

20. (Previously Presented) The nucleic acid detection method as set forth in claim 1, wherein, in the determining step, the target nucleic acid is detected by electrophoresis.

21. (New) A nucleic acid detection method comprising:  
fixing a cell-containing sample directly on divided compartments of a support;  
pre-treating the sample to enable amplification of nucleic acids contained in the sample;  
performing PCR by placing a PCR mixture, containing primers for amplifying a target nucleic acid, into the compartments of the support; and

determining whether amplified nucleic acids existing in a PCR solution outside of the fixed cell sample contain the target nucleic acid.

22. (New) A nucleic acid detection method comprising:  
fixing a cell-containing sample directly on divided compartments of a support;  
pre-treating the sample to enable amplification of nucleic acids contained in the sample;  
performing PCR by placing a PCR mixture, containing primers for amplifying a target nucleic acid, into the compartments of the support;

detecting amplified nucleic acids existing in a PCR solution outside of the fixed cell sample; and

determining whether the amplified nucleic acids are the target nucleic acid.